



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/827,159	04/19/2004	William H. Owen	047752/268747	2705

826 7590 03/22/2006

ALSTON & BIRD LLP
BANK OF AMERICA PLAZA
101 SOUTH TRYON STREET, SUITE 4000
CHARLOTTE, NC 28280-4000

EXAMINER

HEWITT, JAMES M

ART UNIT

PAPER NUMBER

3679

DATE MAILED: 03/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/827,159	Applicant(s) OWEN ET AL.	
	Examiner James M. Hewitt	Art Unit 3679	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-44 is/are pending in the application.
- 4a) Of the above claim(s) 15-25 and 36-44 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 and 26-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>4/19, 4/4, 7/25, 1/30</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of Invention I in the reply filed on 1/11/06 is acknowledged.

Claims 15-25 and 36-44 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 1/11/06.

Specification

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: the gripping means being a hard granular material (claims 5 and 30); the arc length of each of the arcuate locking members being at least 15 degrees with respect to the axis (claims 9 and 32*); the suspending step (claim 29); "adjusting the slope..." (claim 32).

As two claims are numbered "32", "32*" refers to the second claim numbered "32".

Claim Objections

Claims 1-14, 26-32, 32* and 33-35 are objected to because of the following informalities:

In claim 1, line 16, the phrase "the outer surface of" should be deleted for clarity.

In claim 6, line 2, "further" should be deleted for clarity.

In claim 7, line 3, the first comma should be deleted for clarity.

In claim 9, line 3, the comma should be deleted for clarity.

In claims 11 and 12, the acronym "PVC" should be spelled out for clarity.

In claim 26, line 17, the phrase "to the bell socket" seems out of place or seems to be missing a preceding phrase.

In claim 30, line 3, "segment" should be "member".

In claim 31, line 1, "the" should be inserted before "providing".

Claims 32*, 33, 34 and 35, should be renumbered as claims 33-36 respectively as there are two claims numbered "32".

In claim 32*, line 2, "each of" should be inserted after "providing".

In claim 32*, lines 3-4, the phrase "wherein an arc length...with respect to the axis" should be replaced with the phrase "with an arc length of at least 15 degrees with respect to the axis" for clarity.

In claim 33, line 2, "each of" should be inserted after "providing".

In claim 33, lines 3-4, the phrase "wherein an arc length...with respect to the axis" should be replaced with the phrase "with an arc length of about 60 degrees with respect to the axis" for clarity.

In claim 34, line 2, the phrase "the rigid material wherein the rigid material is selected" should be replaced with "the rigid material" for clarity.

In claim 34, the acronym "PVC" should be spelled out for clarity.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-14, 26-32, 32* and 33-35 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, lines 7-8, the phrase "being configured for *axially-directed attachment* to the bell socket" is unclear.

In claim 1, line 19, "for restraining engagement" of what?

In claim 3, the spacers are said to be composed of an elastomeric material having a different stiffness than the stiffness of the sealing portion. Yet in claim 2, from which claim 3 depends, the spacers are said to be comprised of the elastomeric material that comprises the sealing portion.

In claim 4, line 4, "initially" relative to what?

The term "hard" in claim 5 is a relative term which renders the claim indefinite. The term "hard" is not defined by the claim, the specification does not provide a

Art Unit: 3679

standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

In claim 5, line 7, use of "or" renders the claim indefinite as it is unclear as to which members constitute the group. It seems that "or" should be "and". Note MPEP 2173.05(h), section I.

In claim 12, line 5, use of "or" renders the claim indefinite as it is unclear as to which members constitute the group. It seems that "or" should be "and". Note MPEP 2173.05(h), section I.

In claim 12, line 6, "plastic having a hardness greater than that of PVC" is indefinite as PVC has a range of hardnesses.

In claim 14, line 2, the phrase "*axially attached* to the bell socket" is unclear.

In claim 26, line 18, the term "axial attachment force" is not understood. Also note use of the term in claims 31 and 32.

In claim 29 line 4, "initially" relative to what?

The term "hard" in claim 30 is a relative term which renders the claim indefinite. The term "hard" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

In claim 30, line 6, use of "or" renders the claim indefinite as it is unclear as to which members constitute the group. It seems that "or" should be "and". Note MPEP 2173.05(h), section I.

In claim 34, line 7, use of “or” renders the claim indefinite as it is unclear as to which members constitute the group. It seems that “or” should be “and”. Note MPEP 2173.05(h), section I.

In claim 34, line 8, “plastic having a hardness greater than that of PVC” is indefinite as PVC has a range of hardnesses.

Double Patenting

Claims 15-25 and 36-44 of this application conflict with claims 1-20 of Application No. 11/329,669. 37 CFR 1.78(b) provides that when two or more applications filed by the same applicant contain conflicting claims, elimination of such claims from all but one application may be required in the absence of good and sufficient reason for their retention during pendency in more than one application. Applicant is required to either cancel the conflicting claims from all but one application or maintain a clear line of demarcation between the applications. See MPEP § 822.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 5, 6, 9, 14, 26, 30, 31, 32, 32*, 34 and 35 are rejected under 35 U.S.C. 102(e) as being anticipated by Jones (US 2004/0232700 A1).

With respect to claim 1, Jones discloses a mechanical pipe joint for sealing and restraining adjoining fluid piping members along an axis, said joint comprising: a male piping member (13) defining an outer surface; a female piping member (11) comprising a bell socket for receiving the male piping member, the bell socket defining an inner surface having a circumference larger than outer surface of the male piping member so as to define a sealing cavity (17) therebetween; a gland (31) extending at least partially around the male piping member and being configured for axially-directed attachment to the bell socket, the gland defining at least one bearing surface (35) that is forced axially as the gland is attached to the bell socket; and a restraining gasket (15) for sealing and restraining the male piping member relative to the female piping member, the restraining gasket being formed at least in part of an elastomeric material and comprising: a sealing portion (45) that fits substantially within the sealing cavity and provides a fluid seal between the inner surface of the bell socket and the outer surface of the male piping member; and a restraining portion that surrounds the outer surface of the male piping member substantially outside of the sealing cavity and comprises a plurality of circumferentially-spaced arcuate locking members (53) formed from a rigid material and arranged for restraining engagement between the bearing surface of the gland and the outer surface of the male piping member as the gland is axially attached to the bell socket, wherein the locking members are retained relative to each other by the elastomeric material before the attachment of the gland to the bell socket.

With respect to claim 5, wherein the plurality of circumferentially-spaced arcuate locking members are configured to restrain the outer surface of the male piping member with a means for gripping the outer surface of the male piping member, the gripping means selected from the group consisting of: a plurality of teeth (71, 73); an abrasive grit; a hard granular material; or a plurality of radial ridges.

With respect to claim 6, further comprising an interface (e.g., as at 63) between the sealing portion and the restraining portion, the interface further defining a slope, the slope being configured to convert an axial force of the at least one bearing surface of the gland into a partially-axial force and a partially-radial force on the restraining gasket.

With respect to claim 9, wherein the arc length of each of the locking members is at least 15 degrees with respect to the axis. Refer to Figure 5.

With respect to claim 14, further comprising a flange axially attached to the bell socket, the flange (27) extending radially outward from the bell socket and wherein the flange further defines a first plurality of apertures (29) extending through the flange parallel to the axis, and wherein the gland further defines a second plurality of apertures (37) configured to correspond axially with the first plurality of apertures and to accept a plurality of threaded connectors (39, 41) configured to axially attach the gland to the bell socket.

With respect to claim 26, Jones discloses a method of sealing and axially securing a male piping member (13) within an adjoining bell socket (11) along an axis, the bell socket defining a sealing cavity (17) between an inner surface of the bell socket and an outer surface of the male piping member, the method comprising; providing a

restraining gasket (15) adapted to surround the male piping member, the restraining gasket being formed at least in part of an elastomeric material and having a sealing portion (45) and a restraining portion, the restraining portion comprising a plurality of circumferentially-spaced arcuate locking members (53) formed from a rigid material and wherein the locking members are retained relative to each other by the elastomeric material; surrounding the male piping member with the restraining gasket; inserting the male piping member into the bell socket such that the sealing portion of the restraining gasket is positioned about the male piping member substantially within the sealing cavity so that a fluid seal is formed between the inner surface of the bell socket and the outer surface of the male piping member; and attaching a gland (31), the gland extending at least partially around the male piping member and the gland defining at least one bearing surface (35), to the bell socket such that the at least one bearing surface produces an axial attachment force on the plurality of circumferentially-spaced arcuate locking members so that the locking members are urged into engagement with the male piping member so as to axially secure the male piping member within the bell socket.

With respect to claim 30, wherein the providing step further comprises providing a surface located on the radially inner surface of each arcuate locking segment, the surface selected from the group consisting of: a plurality of teeth (71, 73); an abrasive grit; a hard granular material; or a plurality of radial ridges

With respect to claim 31, wherein providing step further comprises providing an interface (e.g., as at 63) between the sealing portion and the restraining portion, the

interface further defining a slope, the slope being configured to convert the axial attachment force of the at least one bearing surface of the gland into a partially-axial force and a partially-radial force on the gasket.

With respect to claim 32, wherein the providing step further comprises adjusting the slope to be directed radially outward towards the bell socket, such that the partially-axial force is exerted first on the sealing portion, and the partially radial force is exerted second on the plurality of circumferentially-spaced arcuate locking members so that the axial attachment force of the at least one bearing surface of the gland seals the sealing cavity about the male piping member before urging the plurality of circumferentially-spaced arcuate locking members into engagement with the outer surface of the male piping member so as to axially secure the male piping member within the bell socket.

With respect to claim 32*, wherein the providing step further comprises providing the plurality of circumferentially-spaced arcuate locking members wherein an arc length of each of the plurality of circumferentially-spaced arcuate locking members is at least 15 degrees, with respect to the axis. Refer to Figure 5.

With respect to claim 34, wherein the providing step further comprises providing the rigid material wherein the rigid material is selected from the group consisting of: hardened metal; mild steel; ductile iron; ceramic; or plastic having a hardness greater than that of PVC.

With respect to claim 35, wherein the attaching step further comprises attaching the gland to the bell socket using a plurality of threaded connectors (39, 41) such that

the at least one bearing surface of the gland is gradually brought into contact with the plurality of circumferentially-spaced arcuate locking members.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7-8, 10, 11-13 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jones US 2004/0232700 A1).

With respect to claims 7 and 8, Jones fails to teach that the slope is directed radially outward towards the bell socket at an angle of approximately 10-20 degrees (approximately 15 degrees) with respect to a plane that is perpendicular to the axis. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Jones such that the slope is directed radially outward towards the bell socket at an angle of approximately 10-20 degrees (approximately 15 degrees) with respect to a plane that is perpendicular to the axis, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art.

With respect to claims 10 and 33, Jones states that ring segments of various lengths may be employed. Thus, it would have been obvious to one having ordinary

skill in the art at the time the invention was made to employ segments with an arc length of 60 degrees.

With respect to claim 11, Jones fails to explicitly teach that his bell socket is ductile iron. Jones teaches that his bell socket is metal (note cross-hatching in Figure 4). It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ ductile iron as Jones' metal, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice.

With respect to claim 12, wherein the rigid material is selected from one of the group consisting of: mild steel; ductile iron; ceramic; or plastic having a hardness greater than that of PVC.

With respect to claim 13, Jones fails to explicitly teach that his bell socket and male member are made of ductile iron. Jones teaches that his bell socket and male member may be metal. It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ ductile iron as Jones' metal, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice.

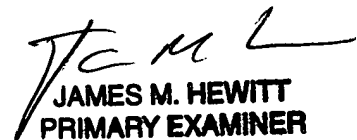
Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James M. Hewitt whose telephone number is 571-272-7084.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel Stodola can be reached on 571-272-7087. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


JAMES M. HEWITT
PRIMARY EXAMINER